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PATENT
Attorney Docket No. 02481.1691

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	
	)	
Zaid JAYYOSI et al.	)	Group Art Unit: 1624
	)	
Application No.: 09/724,496	)	Examiner: Hong Liu
	)	
Filed: November 28, 2000	)	

For: THERAPEUTIC USES OF TRI-ARYL ACID DERIVATIVES

Assistant Commissioner for Patents
Washington, DC 20231

Sir:

Response Under 37 C.F.R. § 1.111

This communication responds to the non-Final Office Action dated November 18, 2002. Please reconsider this application in light of the following remarks.

I. Election of species requirement

In the earlier Office Action of September 20, 2002, the Examiner asked the applicants elect a single disclosed species to begin examination. Applicants elected the compound of Example 7z on page 108 of the application. The elected compound has the structure shown in claim 94 and comprises a group Ar I as a heteroaryl group. The heteroaryl group is a substituted oxazoyl group.

The Examiner mentioned that the elected compound was not found in the search and that the search was expanded to compounds where Ar I is a fused arylheterocyclyl. The Examiner mentioned that prior art was found for this new subgenus. The document cited by the Examiner, U.S. Patent No. 5,051,427, discloses compounds having a quinoline group in the position corresponding to Ar I of the invention. A quinoline group falls within the definition of "heteroaryl" in the present specification, not within the definition of "fused arylheterocyclyl." *See* specification at page 12, line 3-21. Applicants respectfully request confirmation that the full scope of "heteroaryl" for variable Ar I was

examined and also request clarification as to what additional Ar I groups were examined.

The Examiner withdrew claims 3-6, 8, 10-13, 16-19, 22, 24-26, 28-38, 40-48, 50-88 and 90-93 from consideration as not reading on the elected species. Claim 11, however, does read on the elected species. Claim 9, which was examined, does not literally read on the elected species. Claim 9 defines variable "B" as a chemical bond, while the elected compound contains variable "B" as -O-. Claim 39 also does not literally include the elected compound. Applicants respectfully request clarification on whether claims 9, 11 and 39 will be examined or will be withdrawn from consideration.

The Examiner withdrew claims 50-88 from consideration. Claims 50-82, however, cover methods of using the elected compound. Applicants do not agree that those claims should be withdrawn from consideration. The Examiner never required applicants to elect between compounds and methods of using compounds in any restriction requirement. Instead, the Examiner asked applicants to only elect a species to begin examination. Applicants respectfully request that the Examiner include claims 50-82 for examination, as those claims do not constitute a "non-elected" invention.

II. Rejection under 35 U.S.C. § 102

The Examiner rejected claims 1, 2, 7, 9, 14, 15, 20, 21, 23, 27, 39, 49 and 89 under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,051,427 to Huang et al. ("Huang"). The Examiner stated that Huang teaches the compounds of the rejected claims, citing the compounds in Table III at col. 14 of the Huang patent. Applicants acknowledge the Examiner's finding of allowability of claim 94. Applicants respectfully traverse the rejection of the remaining claims.

In order to anticipate the rejected claims, the Huang disclosure must teach each element of the claimed invention. In this instance, Huang does not teach at least variable "B" in formula (I) of independent claims 1 and 27. Instead, Huang discloses compounds of its own formula I that contain a group $-(C)_dR_1R_2-$, where d is 1-5, in the position corresponding to group "B" of the invention. That formula does not teach a group B as defined in claims 1 or 27, which is -O-, -S-, -SO-, $-SO_2-$, $-NR_{17}-$, a chemical bond, ethynylene, $-C(O)-$, $-N(R_{18})C(O)-$, or $-C(O)NR_{18}-$. Huang does not suggest the

claimed compound from an obviousness perspective either. Huang explicitly defines its variable "d" as 1-5, while allowing other variables, including a, b, e and f, to be defined as 0. The document does not suggest disregarding that intentional distinction to instead allow "d" to be defined as 0, which could presumably result in only a bond between the adjacent rings. The document also provides no motivation for replacing the carbon atom "C" with heteroatoms in a way needed to reach the compound of the invention or for otherwise modifying any other aspect of the group $-(C)_dR_1R_2-$ to result in a compound of the invention.

With respect to the particular compounds cited by the Examiner in Table III at col. 4 of the Huang patent, each of those compounds likewise fail to teach or suggest the compounds of the invention in at least the position of variable "B." In light of the above, the Huang disclosure as a whole does not teach or suggest the claimed invention.

III. Rejection under 35 U.S.C. § 112, second paragraph

Claims 1, 2, 27 and 49 stand rejected under 35 U.S.C. § 112, second paragraph, as indefinite. The Examiner commented that the term "optionally substituted" was unclear as to the nature and number of substituents intended. The Examiner also stated that the terms "heterocyclyl" and "heteroarylalkyl" were unclear as to the "array" of heteroatoms, size of the rings and "nature" of atoms as ring members. Applicants respectfully traverse this rejection.

Claim 2 recites various "optionally substituted" groups within the meanings of rings Ar I, Ar II and Ar III. The definitions of the groups themselves in the specification confirm that the rings may be unsubstituted or substituted. The definition of "heteroaryl," for example, appears in the specification at page 12, lines 3-21. That definition recites possible ring systems that include both unsubstituted and substituted rings. The substituents are referred to as "ring system substituents." "Ring system substituents" are described at page 15, lines 14-28. Those skilled in the art would thus understand the scope of the "optionally substituted" groups recited in claim 2. With regard to the number of substituents on the rings, those skilled in the art would understand that the number of substituents on a ring is limited by the number of atoms within the ring that are capable of carrying substituents. Determining the number of

possible substituents on a ring is therefore not a difficult task. In light of the above, the term "optionally substituted" should not render the claims indefinite.

The terms "heterocyclyl" and "heteroaralkyl" appear in claims 1 and 27. Those terms are defined in the specification at page 15, lines 1-13 and page 11, lines 21-23, respectively. The cited definitions recite possible heteroatoms in the rings, the number of atoms in the rings, possible ring system substituents, and then recite example groups included within each term. Both definitions mention nitrogen, oxygen and sulfur as possible heteroatoms, with "heteroaralkyl" incorporating part of its definition from "heteroaryl.". The term "heterocyclyl" refers to a ring size of about 3 to about 10 atoms, while "heteroaryl" refers to a ring size of about 5 to about 14 atoms. The cited terms therefore should not be indefinite in the respects mentioned by the Examiner.

In view of the above, the pending claims should be patentable over the cited art and should satisfy the requirements of 35 U.S.C. § 112, second paragraph. If there is any fee due in connection with the filing of this Response, please charge the fee to our Deposit Account No. 06-0916.

Respectfully submitted,

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